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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,817	08/25/2003	Won-jae Yoon	1572.1195	1426

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EXAMINER

ZEC, FILIP

ART UNIT PAPER NUMBER

3744

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/646,817	YOON ET AL.	
	Examiner	Art Unit	
	Filip Zec	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/25/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,921,095 to Lee et al. In col 2, lines 27-36 of Lee, one notices all elements claimed by the applicant, namely a method for refrigeration, comprising an expandable type refrigerator which is capable of coupling a plurality of refrigerating units or freezing units which each have independent operational cycles and a predetermined size, and is easily expanded at the installation site of a refrigerator by coupling a plurality of the refrigerating units or freezing units. Each unit contains a cool air generator (10, FIG. 6), coupled to the refrigerator compartments (100, 200, 300...), which are detachable from each other (15, 14).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5, 7, 12, 13, 15, 16 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,921,095 to Lee et al. Lee discloses applicant's basic inventive

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concept, an expandable type refrigerator which is capable of coupling a plurality of refrigerating units or freezing units which each have independent operational cycles and a predetermined size, and is easily expanded at the installation site of a refrigerator by coupling a plurality of the refrigerating units or freezing units (col 2, lines 27-36), each unit containing a cool air generator (10, FIG. 6), coupled to the refrigerator compartments (100, 200, 300...), which are detachable from each other (15, 14) and have doors (11), substantially as claimed with the exception of stating that the cooling cabinets could be oriented in any direction or in a hexahedronal shape. Lee, however, does teach that *it is possible to easily change the shape and capacity of the expandable type refrigerator based on the installation site environment* (col 7, lines 1-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Lee to modify the system by being able to orient the cabinets in any direction in order to improve the accessibility of the freezer/cooler units.

Lee continues to describe the machine compartments (10) containing condensers and compressors, necessary for a refrigerating circuit (col 4, lines 18-24), therefore rendering the presence of an evaporator obvious.

5. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,921,095 to Lee et al., in view of U.S. Patent 6,412,286 to Park et al. Lee discloses applicant's basic inventive concept, an expandable type refrigerator which is capable of coupling a plurality of refrigerating units or freezing units which each have independent operational cycles and a predetermined size, and is easily expanded at the installation site of a refrigerator by coupling a plurality of the refrigerating units or freezing units (col 2, lines 27-36), each unit containing a cool air generator (10, FIG. 6), coupled to the refrigerator compartments (100, 200,

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300...), which are detachable from each other (15, 14) and have doors (11), substantially as claimed with the exception of stating use of a thermoelectric semiconductor as a cooling element. Park, however, teaches the use of thermoelectric semiconductors to be old in the refrigeration art (20, FIG. 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Park to modify the system of Lee by using a thermoelectric semiconductor as a cooling element in order to reduce the size of the system by simple elimination of the compressor-condenser-evaporator circuit.

6. Claims 6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,921,095 to Lee et al., in view of U.S. Patent 5,722,244 to Shelton et al. Lee discloses applicant's basic inventive concept, an expandable type refrigerator which is capable of coupling a plurality of refrigerating units or freezing units which each have independent operational cycles and a predetermined size, and is easily expanded at the installation site of a refrigerator by coupling a plurality of the refrigerating units or freezing units (col 2, lines 27-36), each unit containing a cool air generator (10, FIG. 6), coupled to the refrigerator compartments (100, 200, 300...), which are detachable from each other (15, 14) and have doors (11), substantially as claimed with the exception of stating that the compressor-condenser-expansion valve circuit is separated from the main system, coupled to the cooling units via duct. Shelton, however, teaches the use of a separated circuit for the compressor (80)-condenser (82)-expansion valve (90) portion (FIG. 6), coupled to the cooling units via duct (col 7, lines 17-20) to be old in the refrigeration art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Shelton to modify the system of Lee by using the compressor-condenser-expansion valve circuit separated from the main system,

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coupled to the cooling units via duct in order to provide bigger cooling capacity than a smaller circuit containing smaller equipment.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,921,095 to Lee et al., in view of U.S. Patent 5,722,244 to Shelton et al., as applied to claim 10 above, and further in view of U.S. Patent 4,795,088 to Kobayashi et al. Lee in view of Shelton discloses applicant's basic inventive concept, an expandable type refrigerator which is capable of coupling a plurality of refrigerating units or freezing units which each have independent operational cycles and a predetermined size, and is easily expanded at the installation site of a refrigerator by coupling a plurality of the refrigerating units or freezing units, each unit containing a cool air generator, coupled to the refrigerator compartments, which are detachable from each other and have doors and comprising the compressor-condenser-expansion valve circuit being separated from the main system, coupled to the cooling units via duct, substantially as claimed with the exception of stating that the refrigerator circuit contains an inverter.

Kobayashi, however, teaches the use of an inverter in a refrigeration circuit to be old in the refrigeration art (80, FIG. 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Kobayashi to modify the system of Lee in view of Shelton by using the inverter as a part of the refrigeration circuit in order to control the compressor so as not to exceed the initialized maximum capacity which has been predetermined (col 5, lines 16-21).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,910,163 to Schlamp, Hans teaches a refrigerator system with several lockable compartments.

U.S. Patent 5,816,068 to Oh, Gil Soo et al. teaches a separate-type refrigerator system having main and auxiliary compartments being lockable and interchangeable.

U.S. Patent 4,895,001 to Jondahl, Joseph S. teaches an expandable refrigeration system.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Filip Zec whose telephone number is (703) 306-3446 or, starting mid November, (571) 272-4815. The examiner can normally be reached on Monday through Friday, with the exception of every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (703) 308-2597 or, starting mid November, on (571) 272-4808. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Filip Zec
Examiner
Art Unit 3744


CHERYL J. TYLER
PRIMARY EXAMINER

FZ